

WHAT IS CLAIMED IS:

1. A printed wiring board comprising:  
an insulator board having a via-hole;  
a plurality of conductor patterns formed on the insulator board; and  
a unified conductive paste provided in the via-hole and electrically interconnecting the conductor patterns,  
wherein the unified conductive compound in the via-hole has an inclination of a side wall thereof, which is adjacent to an area contacting the conductor pattern, against the conductor pattern in such a manner that the farther from the conductor patterns on the side wall, the closer to the center axis of the via-hole.
2. The printed wiring board as in claim 1, wherein the side wall of the conductive compound has an arch shape on a cross-sectional plane passing a center axis of the via-hole.
3. The printed wiring board as in claim 1, wherein the insulator board thereof is made of thermoplastic resin.
4. The printed wiring board as in claim 1, wherein the conductive compound is made of sintered metal made from metal particles.
5. The printed wiring board as in claim 1, wherein:  
the conductor pattern is made of metal;  
the unified conductive compound comprises first metal forming

an alloy with the metal making up the conductor pattern and second metal having higher melting point than heating temperature for interconnecting layers; and

the conductor pattern is electrically interconnected with a solid phase diffusion layer that is formed by mutual solid phase diffusion between the metal making up the conductor pattern and the first metal in the conductive compound.

6. A fabrication method for a printed wiring board, the method comprising processes of:

packing an interlayer connecting material in a via-hole formed in an insulator film; and

interconnecting electrically a plurality of conductor patterns with a unified conductive compound formed by hot-pressing the interlayer connecting material in the via-hole between a plurality of conductor patterns,

wherein the interconnecting process includes hot-pressing the insulator film to deform the insulator film to protrude out into the via-hole, thereby forming an inclination of a side wall of the conductive compound, which is adjacent to an area contacting the conductor pattern, against the conductor pattern in such a manner that the farther from the conductor patterns on the side wall, the closer to the center axis of the via-hole.

7. The fabrication method as in claim 6, wherein a cross section of the compound is formed in an arch shape on a cross-sectional plane passing a center axis of the via-hole in the interlayer

connecting process.

8. The fabrication method as in claim 6, wherein the insulator board is made of thermoplastic resin.

9. The fabrication method as in claim 8, wherein when the unified conductive compound is formed by hot-pressing the interlayer connecting material in the interlayer connecting process, the volume of the unified conductive compound is reduced in comparison with that of the interlayer connecting material.

10. The fabrication method as in claim 9, wherein volume reduction ratio of the conductive compound to the interlayer connecting material is more than 5 %.

11. The fabrication method as in claim 9, wherein:  
the interlayer connecting material contains metal particles;  
and

the interlayer connecting process includes sintering the metal particles to form the unified compound when the interlayer connecting material is hot-pressed.

12. The fabrication method as in claim 11, wherein:  
the conductor pattern is made of metal;  
the metal particles contained in the interlayer connecting material includes first metal particles that form first alloy with the metal making up the conductor pattern and second metal particles

that have a higher melting point than heating temperature for interconnecting layers and forms second alloy with metal making up the first metal particles; and

a plurality of conductor patterns are interconnected electrically by forming the sintered and unified conductive compound by making the second alloy between both metals respectively making up the first metal particles and the second metal particles and by promoting mutual solid phase diffusion between the metals respectively making up the first metal particles and the conductor pattern through the hot-press of the interlayer connecting material interposing between a plurality of conductor patterns.

13. The fabrication method as in claim 9, wherein the interlayer connecting process includes heating the insulator film at a temperature at which modulus of elasticity of the thermoplastic resin making up the insulator film is 1 - 1000 MPa.

14. The fabrication method as in claim 12, wherein the first particles are tin and are included in the interlayer connecting material by an amount between 20 weight % and 80 weight %.

15. The fabrication method as in claim 14, wherein the tin is included by an amount of 50 weight %.